

CLAIMS

What is claimed is:

- 1 1. A method for conferencing, the method comprising:
2 generating a first video signal, a first audio signal and a first haptic signal at a
3 first location;
4 generating a second video signal, a second audio signal and a second haptic
5 signal at a second location;
6 communicating the first video signal, the first audio signal and the first haptic
7 signal to the second location; and
8 communicating the second video signal, the second audio signal and the
9 second haptic signal to the first location.

- 1 2. The method of claim 1, wherein communicating to the first location is
2 concurrently performed with communicating to the second location.

- 1 3. The method of claim 1, further comprising:
2 generating an audible sound at the first location, the audible sound
3 corresponding to the second audio signal;
4 displaying a video at the first location, the video corresponding to the second
5 video signal; and
6 reproducing a haptic image at the first location, the haptic image
7 corresponding to the second haptic signal.

- 1 4. The method of claim 1, further comprising:
2 generating an audible sound at the second location, the audible sound
3 corresponding to the first audio signal;
4 displaying a video at the second location, the video corresponding to the first
5 video signal; and
6 reproducing a haptic image at the second location, the haptic image
7 corresponding to the first haptic signal.

1 5. The method of claim 1, further comprising the steps of:
2 integrating the first video signal, the first audio signal and the first haptic
3 signal into a first integrated signal;
4 integrating the second video signal, the second audio signal and the second
5 haptic signal into a second integrated signal; and
6 concurrently communicating the first integrated signal to the second location
7 and communicating the second integrated signal to the first location.

1 6. The method of claim 5, further comprising the steps of:
2 generating an integrated haptic signal from the first integrated signal and the
3 second integrated signal;
4 reproducing an integrated haptic image corresponding to the integrated haptic
5 signal at the first location; and
6 concurrently reproducing the integrated haptic image at the second location.

1 7. A conferencing system comprising:
2 a video camera at a first location configured to capture video and communicate
3 the video to a second location;
4 a display at the second location configured to receive and display the
5 communicated video;
6 an audio input device at the first location configured to capture audio and
7 communicate the captured audio to the second location;
8 an audio output device at the second location configured to receive and
9 reproduce the communicated audio;
10 a first haptic device at the first location configured to generate a haptic signal
11 to communicate the haptic signal to the second location; and
12 a second haptic device at the second location configured to receive the haptic
13 signal and produce a haptic image corresponding to the communicated haptic signal.

1 8. The conferencing system of claim 7, wherein the first haptic device is
2 further configured to detect an object, and wherein the communicated haptic signal
3 corresponds to the detected object.

1 9. The conferencing system of claim 8, wherein the first haptic device is
2 further configured to detect a force exerted by the object, and wherein the
3 communicated haptic signal further corresponds to the detected force.

1 10. The conferencing system of claim 8, wherein the second haptic device
2 is configured to detect a second object, and wherein the communicated haptic signal
3 corresponds to integration of the detected objects.

1 11. The conferencing system of claim 10, wherein the first haptic device is
2 further configured to detect a force exerted by the object, wherein the second haptic
3 device is further configured to detect a second force exerted by the second object, and
4 wherein the communicated haptic signal corresponds to integration of the detected
5 forces.

1 12. The conferencing system of claim 7, further comprising a processor
2 configured to integrate the communicated video, audio and haptic signal into an
3 integrated signal that is communicated to the second location.

1 13. The conferencing system of claim 7, further comprising:
2 a second video camera at the second location configured to capture a second
3 video and communicate the second video to the first location;
4 a second display at the first location configured to receive and display the
5 second video;
6 a second audio input device at the second location configured to detect a
7 second audio and communicate the detected second audio to the first location; and
8 a second audio output device at the first location configured to receive and
9 reproduce the communicated second audio.

1 14. A system providing conferencing signals, comprising:
2 a first conferencing signal originating at a first location, the first conferencing
3 signal comprising:
4 an audio portion corresponding to sound detected by an audio
5 detection device at the first location;
6 a video portion corresponding to a video generated by a first
7 camera at the first location; and
8 a haptic portion corresponding to a haptic signal generated by a
9 haptic device at the first location;
10 a second conferencing signal originating at a second location, the second
11 conferencing signal comprising:
12 a second audio portion corresponding to other sounds detected
13 by a second audio detection device at the second location;
14 a second video portion corresponding to a second video
15 generated by a second camera at the second location; and
16 a second haptic portion corresponding to a second haptic signal
17 generated by a second haptic device at the second location; and
18 a communication system configured to communicate the first conferencing
19 signal to the second location and configured to communicate the second conferencing
20 signal to the first location.

1 15. The system of claim 14, wherein the communication system comprises
2 at least one of an internet system, a telephony system, a radio frequency (RF) wireless
3 system, a microwave communication system, a fiber optics system, an intranet system,
4 a local access network (LAN) system, an Ethernet system, a cable system, a radio
5 frequency system, a cellular system, an infrared system and a satellite system.

1 16. A conferencing system, comprising:
2 means for communicating a first conferencing signal to a first location, the
3 first conferencing signal comprising a first video signal, a first audio signal and a first
4 haptic signal each generated at a second location;
5 means for communicating a second conferencing signal to the second location,
6 the second conferencing signal comprising a second video signal, a second audio
7 signal and a second haptic signal each generated at the first location;
8 means for displaying the first video signal and the second video signal;
9 means for reproducing the first audio signal and the second audio signal; and
10 means for reproducing the first haptic signal and the second haptic signal.

1 17. The system of claim 16, further comprising:
2 means for receiving a second communication signal at the second location, the
3 second communication signal comprising a second video signal, a second audio signal
4 and a second haptic signal each generated at the first location;
5 means for displaying the second video signal as a second video;
6 means for reproducing the second audio signal as a second audible sound;
7 means for reproducing the second haptic signal as a second haptic image.

1 18. The conferencing system of claim 17, further comprising:
2 means for integrating the first haptic signal and the second haptic signal into
3 an integrated haptic signal;
4 means for reproducing an integrated haptic image corresponding to the
5 integrated haptic signal at the first location; and
6 means for concurrently reproducing the integrated haptic image at the second
7 location.

1 19. A program for video and haptic conferencing stored on a computer-
2 readable medium, the program comprising:

3 logic configured to communicate a first conferencing signal to a first location,
4 the first conferencing signal comprising a first video signal, a first audio signal and a
5 first haptic signal each generated at a second location;

6 logic configured to communicate a second conferencing signal to the second
7 location, the second conferencing signal comprising a second video signal, a second
8 audio signal and a second haptic signal each generated at the first location;

9 logic configured to integrate the first haptic signal and the second haptic signal
10 into an integrated haptic signal; and

11 logic configured to reproduce an integrated haptic image corresponding to the
12 integrated haptic signal at the first location and the second location.

1 20. The system of claim 19, further comprising:

2 logic configured to integrate a force detected by a first haptic device that
3 generates the first haptic signal into the integrated haptic signal; and

4 logic configured to integrate another force detected by a second haptic device
5 that generates the second haptic signal into the integrated haptic signal.